

# PATENT SPECIFICATION

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## COMPLETE SPECIFICATION

### Ink Transfer Roller for Continuous Inking Mechanisms of Book Printing Presses, Offset Presses and like Printing Presses

We, MASCHINENFABRIK WINKLER, FALLERT & Co., A.-G., of Berne, Switzerland, a Swiss Company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

All application and frictional spreading rollers in book printing, offset and like presses have the same or approximately the same circumferential velocity as the plate cylinder. On the other hand experience has shown that the circumferential velocity of the ductor roller must be kept considerably smaller than that of the other rollers. There is therefore an abrupt difference in velocity between the ductor roller and the rest of the inking mechanism. The ink adhering to the ductor roller must by some expedient be transferred to the more rapidly moving rollers of the inking mechanism.

In the standard method, transfer is effected intermittently, a lifter roller being provided which at certain times rolls on the ductor roller at a slow speed and takes up ink, and at other times rolls at a higher speed on a more rapidly moving roller and gives off ink. With fast-running rotary presses the change of speed of the lifting roller causes considerable difficulties, and for this reason attempts have been made to find a method of ink transfer approximating more closely to the rotation principle, i.e., a method of continuous transfer.

Inking mechanisms are already known in which a rapidly-moving ink transfer roller and a slowly-moving ductor roller have so narrow a gap between them that the ink transfer roller projects into the ink layer on the ductor roller. It has been found that in such mechanisms an ink transfer roller having a full cylindrical surface is not suitable and that a reduced surface must be provided. The ink transfer roller according to the

[Price 3/-]

invention is characterised by the form of this reduced surface. The surface of the ink transfer roller is provided with elevated parts in the form of closed rings with channels between them, the lateral edges of each ring lying in parallel planes inclined to the axis of the roller. The elevated parts project into the ink layer on the ductor, whereas the channel between each two elevated parts does not come into contact with the ink layer on the ductor. To enable the rollers of the inking mechanism to receive ink along the whole of their length and over the whole of their circumference, these channels are placed at an inclination to the axis of the ink transfer roller and the edges of adjacent rings overlap one another axially of the roller.

The invention is illustrated by way of example in the accompanying drawings:—

Figs. 1 and 2 each show a cross-section of the invention used in conjunction with the known inking mechanism;

Fig. 3 shows a view in elevation of an ink transfer roller according to the invention, transversely to its longitudinal axis; and

Fig. 4 shows the developed surface of an ink transfer roller according to the invention.

The thickness of the ink layer 1 applied to the ductor roller 2 is regulated by means of a series of ink adjusting screws 3, which are distributed along the length of the ductor roller and when adjusted act on ink regulating means 4. Between the ductor roller 2 and the transfer roller 5 is arranged a gap 6, whereas roller 7 rolls on roller 8 and also bears against elevated parts 9 of the transfer roller and rolls thereon. These elevated parts 9 are in the form of closed rings, the lateral edges of each ring lying in parallel planes inclined to the axis of the roller, as is clear from Figs. 3 and 4. Driving of the transfer roller may be effected by friction with the roller 7 or by toothed wheels, chains or the like. The driving

means may for instance consist of toothed wheels 10, 11, 12.

Attention is directed to British Patent No. 548,641 which claims "Inking mechanism 5 for rotary printing presses comprising an ink fountain having a fountain roller and a doctor blade spaced from said roller to leave a substantial film of ink thereon, a transfer roller having one or more raised peripheral 10 portions and adapted to take up ink from the fountain roller, an ink-receiving roller for receiving ink from said transfer roller and transferring the ink to a distributing drum, and means for driving the fountain roller at 15 a low speed and the transfer and ink-receiv-

ing rollers at a higher speed."

What we claim is :—

1. An ink transfer roller, for continuous inking mechanisms of book printing presses, offset presses and like printing presses, 20 characterised in that the surface of the roller is provided with elevated parts in the form of closed rings with channels between them, the lateral edges of each ring lying in parallel planes inclined to the axis of the roller. 25

2. The improved ink transfer roller substantially as hereinbefore described and illustrated in the accompanying drawings.

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